



***Health and Disease
in the History
of Alaska Natives***



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*Health and Disease
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of Alaska Natives*



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Fig. 1. Map showing approximate distribution of the principal Alaska Native groups, which consist of Aleuts, Pacific Eskimos, Yupik Eskimos, Inupiat Eskimos, southeastern Alaskan Indians, and Athapaskan Indians. The Aleuts originally inhabited the entire Aleutian Chain and outer third of the Alaska Peninsula. The Pacific Eskimos include inhabitants of Kodiak Island, or Koniag, and the people of Prince William Sound known as Chugach. The Central Yupik Eskimos inhabit parts of the Alaska Peninsula, the Bristol Bay region, the Yukon-Kuskokwim Delta, Nunivak Island and areas on the shores of Norton Sound. Close relatives include the Siberian Yupik, who live on St. Lawrence Island. The Inupiat, or North Alaskan Eskimos, occupy the Seward Peninsula and offshore islands, the shores of Kotzebue Sound and the northern coast. Southeastern Alaskan Indians include the Tlingit, the closely related Kaigani Haida on the southern half of Prince of Wales Island, and the Tsimshian. The Athapaskan Indians are a large group who inhabit a huge area of interior Alaska and western Canada. The names within the Athapaskan range include language groups of these Indians.

Health of Alaska Natives Around the Time of European Contact

Introduction

Some assume that the Eskimos, Indians and Aleuts of Alaska—collectively known as the Alaska Natives—enjoyed a state of pristine good health prior to their first contact with European explorers in 1732. These northern peoples, it is said, were born with the aid of proficient midwives, enjoyed a carefree and undisciplined childhood, lived out a vigorous and productive adulthood, and died at an advanced age, honored by their children. The bracing climate brought the flush of health to their cheeks, while the minor injuries and indispositions of life were treated skillfully by wise old practitioners well versed in the medicinal use of plant and animal products, capable of bringing relief through massage or by performing minor surgical techniques. The occasional more serious illness was attributed to the breach of a taboo, or to the malignant influence of a sorcerer, but even these sicknesses often could be treated successfully by the prompt intervention of a shaman, who, by dancing, chanting, using amulets, or entering a trance-like state, could identify and remove the cause of the affliction.

The Europeans—so the story goes—brought with them terrible new infectious diseases, in the form of devastating epidemics which rapidly destroyed whole villages, or chronic infections which gradually sapped the health and spirit of the people. Other sicknesses were the consequence of changes in diet, loss of traditional values and beliefs, abuse of substances such as alcohol and tobacco, or decline in subsistence hunting and fishing. Once proud and independent peoples were changed forever.

No one can deny that there is much truth in this exaggerated assessment, but there is more to the story. By the eighteenth century Alaska Natives indeed had developed cultural traits which adapted them admirably to life in the stormy, frigid climate of the Arctic and Subarctic. They had learned to cope in realistic and often ingenious ways with a cruel and miserly environment. Their very wealth of healing practices, however, suggests that disease and injury were not uncommon. A moment's reflection, in fact, should dispel the idea that any society can live free of constant and multiple threats to health. Granted, the arrival of Europeans fostered many new diseases, caused either by



Adorned visage of Kotzebue Sound Eskimo.

by Robert Fortune

infectious agents to which the Natives had had no prior exposure (and hence immunity), or by rapid and fundamental cultural changes. Yet it is equally true that the Alaska Natives—as those of all human societies—were heir to their own significant burdens of disease and disability.

In this essay I reconstruct briefly the state of health of the Eskimos, Indians and Aleuts as it was around the time of the first European encounters along the coasts and rivers, on the tundra, and in the forests of Alaska. First, however, some background concerning the Alaska Natives themselves is appropriate.

The Aleuts inhabited the Aleutian Islands and outer third of the Alaska Peninsula. Theirs was an advanced maritime culture based on the hunting of sea mammals from frail but seaworthy skin boats. They lived in semi-subterranean wood and sod houses in dozens of permanent villages along the chain of islands. Russian ships under the command of Vitus Bering and Alexei Chirikov were the first to visit them in 1741, and over the following half century many Russian vessels returned to the islands to exploit the rich trade in sea otter and other sea mammal skins. During this period the Aleut people were subjugated by their conquerors, with the men forced to hunt for the Russians and the women and children either left to fend for themselves or to serve the pleasure of the traders. By the end of the eighteenth century, the Aleut population had suffered great

losses from disease, starvation and abuse.¹

The people of Kodiak Island, known as the Koniag, were the southernmost Eskimo group, with many cultural features in common with the Aleuts. The climate and vegetation of their island were similar to those of the Aleutians, and the people likewise engaged in fishing and the hunting of sea mammals. The Koniag first encountered Europeans in 1763, with the overwintering of a Russian party under the command of Stepan Glotov.² Trading vessels regularly visited thereafter and in 1784 Grigori Shelikhov established the first major permanent Russian settlement in Alaska, at Three Saints' Bay. The Koniag people, like the Aleuts, were subjugated and forced to serve as hunters for the Russians, with similar adverse effects on their health and well-being.

A closely related group of southern Eskimos, the Chugach, lived along the shores of Prince William Sound. They too subsisted by sea mammal hunting and by fishing, but also by the pursuit of certain land mammals. Their first contact with the outside world came in 1778, with the arrival of Captain Cook's ships, *Resolution* and *Discovery*. Over the next twenty years or so vessels of several nations, including England, Russia, Spain, France and the fledgling United States, passed into the sound for the purpose of exploration and trade. The Russians established the first permanent settlement in the region in 1793. Although the Chugach were not



subjugated to the extent that the Aleuts and Koniag were, many succumbed to new diseases and new pressures on their food resources.³

The Central Yupik Eskimos inhabited the southwestern part of Alaska from the Alaska Peninsula to the eastern shore of Norton Sound, including the large offshore islands of Nunivak and St. Lawrence. They lived not only

along the coast but also along the major river systems of the region, such as the Nushagak, Kuskokwim and Yukon. Most depended on the great salmon runs for subsistence, although the coastal people also hunted sea mammals such as seal and walrus. Captain Cook briefly encountered Yupik Eskimos in Kuskokwim Bay in 1778,⁴ but the first extended

Fig. 2. Two Aleuts from Unalaska

(Reproduced from Gavril Sarytschew, Account of a Voyage of Discovery to the North-east of Siberia, the Frozen Ocean and the North-east Sea, 1807, vol. 2, opposite p. 6.)

contact came with Russian explorations and the establishment of isolated trading posts in Bristol Bay and the Yukon-Kuskokwim region from 1818 to the 1840s. A terrible smallpox epidemic swept through the region from 1838 to 1840, killing an estimated one-third to one-half of the Native population.⁵

From Norton Sound across the coastal and tundra region north of the Brooks Range lived the so-called Inupiat Eskimos.⁶ Although culturally similar to the Yupik and speaking a closely related language, the coastal Inupiat depended much more on hunting seal, walrus and the bowhead whale than on fishing. In the interior region of the North Slope, a subgroup called Nunamiut lived largely from the huge migrating herds of caribou, which provided not only essential food, but clothing and other necessities of daily life.⁷ The earliest European contact with the Inupiat came in 1732, when a Russian trader visited the Diomed Islands in the Bering Strait. Other brief contacts occurred in the late eighteenth century and the first two decades of the nineteenth. Over the following quarter of a century, numerous British ships came in search of the Northwest Passage, some spending one or more winters in the region. Beginning in the late 1840s, literally hundreds of whaling ships, mostly from the United States, sailed through the Bering Strait each year, bringing disease, alcohol and firearms to the inhabitants. A few isolated bands of Eskimos along the

Kobuk and Noatak rivers were not visited until the 1880s.⁸

The lush rain forests of southeastern Alaska, sometimes called the Panhandle, were home to the Tlingit and, in the southern part, to a population of closely related Haida Indians. These tribes profited from a natural environment generous in food resources, particularly salmon, and were able to develop a stable culture rich in material goods. Except for a brief visit in 1741 by Alexei Chirikov, southeastern Alaska remained free of outside influence until after 1775, when Spanish, French, English, Russian and even American ships regularly visited for exploration and trade. In 1796 the Russians built a fortified post at Yakutat and in 1799 established their first settlement in Sitka Sound.⁹

The interior of Alaska—a mosaic of forest, mountains, rivers and taiga—was home to the various bands of Athapaskan Indians, a large family which extends over the western Canadian Subarctic as well. These Indians, of which the best studied bands are the Tanaina, Ingalik, Koyukon and Kutchin, lived largely in temporary villages and camps, and depended on fish, caribou and moose for food. The earliest contacts are obscure, but probably occurred along the Copper River and around Cook Inlet in the latter part of the eighteenth century. After 1818 the Russians made several expeditions up the Copper and Susitna rivers, and in the 1830s and 1840s began to explore the middle Yukon and Kuskokwim rivers, where they

established forts. Meanwhile, Hudson's Bay Company traders were edging westward along the Yukon and even established a post called Fort Yukon within the boundaries of Alaska. By the 1870s and 1880s the fur trade in the region was giving way to prospecting. Some Athapaskans probably had their first dealings with Whites as late as 1885 during Lieutenant Henry Allen's remarkable journey on the Copper, Tanana, Koyukuk and Yukon rivers.¹⁰

Materials for this study are of four principal types. The most extensive and important sources are the personal narratives of those who were among the first to report on their encounters with the Natives. Although sometimes tantalizingly brief and lacking in detail, these records are essential to an understanding of early health conditions. A second type of evidence comes from paleopathology, the study of ancient human remains, such as bones, mummies and bodies fortuitously preserved in a frozen state. A third source—to be used cautiously—is traditional healing practices, since it is reasonable to suppose that a correlation exists between the kinds of diseases and injuries from which a people suffered and the methods of treatment that have evolved. A final type of evidence is inference about earlier times from modern scientific knowledge: for example, the ways by which certain diseases can be spread from animals to man.

Information from each of these sources must be used judiciously. Nothing in this realm can be

considered factual, except possibly certain pathological findings, and even these findings may be subject to errors of interpretation. For all these caveats, however, scattered but substantial evidence does exist on the "baseline" health of the Alaska Natives.

General Health Conditions

Several early visitors described the health of the Alaska Natives they met in very positive terms. Georg Steller, the naturalist on Bering's expedition of 1741, characterized the Aleuts as "strong and stocky, yet fairly well proportioned, and with very fleshy arms and legs,"¹¹ while Chirikov called another party of Aleuts "of fair size" and "seemingly healthy."¹² Others over the next few decades described the men as "healthier and tougher" than the Native peoples of Asia,¹³ or "plump and well shaped,"¹⁴ while the women were characterized as "sturdy and well built."¹⁵ Likewise, in 1784 Shelikhov called the Koniag "tall, healthy, and well-fleshed,"¹⁶ and William Ellis, one of Cook's surgeons, saw the Chugach as "fat and jolly, as if they lived well."¹⁷ In a similar vein, the Yupik Eskimos were described as "tall [and] well-made,"¹⁸ "chubby" or "stout,"¹⁹ and "of robust make and healthy appearance."²⁰ The northern Eskimos were found to be "stout and well made."²¹ In southeastern Alaska one observer called the Tlingit "virile and well-proportioned."²² Members of one Athapaskan band were

described as "a fine, healthy, vigorous, energetic race."²³

A few dissenting comments also appear. One early visitor thought that the Yupik had a "weak constitution,"²⁴ while others reported that the Tlingit had a "slight" body frame,²⁵ and that some of the Athapaskans were "almost stunted."²⁶

Many commented on the lack of cleanliness in Native homes and villages. Most houses were large, permanent, semi-subterranean structures that accommodated several families. They were dark, poorly ventilated and often crowded with adults and children. Access to the interior varied, but among the Aleuts it was common to descend a ladder through a hole in the roof, while the Eskimos usually crawled through an underground tunnel several yards long. Since the outside weather was often harsh and inclement, the inhabitants had to spend long hours crowded closely together. When the needs of nature made their inexorable demands, the individual often found relief in the passageway, or just outside the entrance.²⁷

Since the flesh and oil of sea mammals and fish made up a large part of the diet throughout Alaska, it is not surprising that pungent odors permeated their dwellings. Skin clothing, which could not be effectively washed even if water were freely available, not only added to the general stench, but was also usually alive with lice and perhaps fleas.²⁸ Food could not be properly stored inside the house and frequently became

maggoty during the summer months.²⁹ Garbage was usually thrown in a heap near the door or left in the passageway.³⁰

Individual hygiene also left something to be desired. Early visitors all over Alaska remarked on the dirty, greasy hair and skin of the Natives and their strong body odor.³¹ Although there was an occasional dissenting voice,³² the overwhelming consensus was that personal cleanliness was not a priority among any of the Alaska Native peoples. They probably saw little value in washing, especially during the long winter season, when precious fuel had to be consumed to melt water from snow or ice.³³ In the warmer months they probably found that a layer of grease or dirt helped protect against biting insects.

Famine was a threat everywhere in Alaska, except perhaps in the southeastern part, where fish and other sea life were always abundant. The other maritime peoples—Aleuts and Eskimos—depended primarily on sea mammals, any of which could be capricious in their distribution. Likewise, those who depended on salmon, particularly the riverine Eskimos and certain Athapaskans, sometimes found themselves close to starvation in times of poor runs.³⁴ The unpredictability of the migrating caribou herds also could seriously endanger the principal food supply of the Nunamiut Eskimos and some Athapaskan groups.³⁵



Fig. 3. A Koniag man.

(Reproduced from Martin Sauer, An Account of a Geographical and Astronomical Expedition to the Northern Parts of Russia . . . by Commodore Joseph Billings in the Years 1785, &c.to 1794, 1802, opposite p. 176.)

Hazards of the Environment

The Alaska Natives lived in a stern and sometimes cruel environment—one that rarely forgave a significant lapse in judgment. Climate and weather pervaded all aspects of life. Rain, fog, wind and wet snow were

characteristic of the Panhandle, Aleutian Islands, Prince William Sound and Kodiak Island. The Bering and arctic coasts, in contrast, had relatively little precipitation, but the markedly colder winter temperatures, with sweeping winds causing an extra chill factor, ensured that the ice and snow

covered the land for large parts of the year. The interior had still another pattern, with warm, sometimes hot, summer temperatures and winter cold so intense that it seemed palpable. Sudden storms, often of fierce intensity, could occur in any part of Alaska, but were especially feared in coastal areas where the people made their living primarily from the sea.

One obvious consequence of the harsh climate was cold injury, either through frostbite or hypothermia. The Natives did not suffer so much from these plagues as might be expected. They had a deep respect for the cold and over the centuries had developed some ingenious ways to avoid its hazards through proper fur clothing and housing, both based on the principle of insulation. Sometimes cold injury did occur, however, such as when an individual was overtaken by a severe storm while on the trail, or when a mitten was lost or a boot became wet unavoidably.

The problem of frostbite, understandably, was a particular risk in the arctic regions, and several early records attest not only to its occurrence, but also to methods for treatment. Minor spots of frostbite—for example, on the nose or cheeks—were treated by the direct touch of a warm hand, whereas frozen toes or fingers were thrust promptly into the axilla or placed on the bare abdominal wall of either the victim or of a companion. One early account tells of placing fresh raw liver on the frozen area.³⁶ Another mentions the time-honored method of rubbing snow on the af-

fected part,³⁷ although this treatment is now known to be harmful.

Permanent damage could occur, including scars and open sores of the face or other affected areas, if the frozen part was not rapidly rewarmed.³⁸ More serious cold injury sometimes led to the loss of an extremity, due to irreversible damage to the circulation. In such cases the extremity became black and lifeless and had to be amputated, a task sometimes performed by a family member.³⁹

Hypothermia resulted from a gradual lowering of the "core" body temperature, ultimately to a level incompatible with life. Although hypothermia usually resulted from an accident, occasionally in times of hardship an infant or an elderly person—the latter sometimes of his or her own free will—was allowed to die of exposure.⁴⁰ Sometimes a baby born on the trail perished from hypothermia.⁴¹

Far more common than cold damage, however, were the multiple injuries of everyday life. Injuries may be subdivided broadly into accidents, injuries intentionally inflicted by others, and self-inflicted injuries. Each type can produce the same ill effects, such as cuts, bruises, fractures, sprains, burns, asphyxiation and intoxication; they are separated here mainly to point up the cultural factors in their causation.

Accidents were by far the most important cause of injury, and were mainly the result of subsistence activities. Drowning was probably the commonest cause of accidental death in early times, as it remains today. A

good part of the lives of men were spent on the water, whether in the open sea, on a river, or a lake. Although the boats were ingenious in their construction and seaworthy for their size, it was inevitable that they would sometimes be caught in an unexpected storm or overturned by an angry sea mammal. Other accidental drownings occurred when a hunter fell through the ice or when a family was travelling by boat to their spring camps. Few Alaska Natives knew how to swim; in any event, it was usually only a matter of time before the cold water overcame the strongest of them. Other subsistence activities also took their toll, such as falling from a cliff while gathering eggs,⁴² falls on slippery walking surfaces, and accidental wounds from knives, harpoons, arrows and traps.⁴³

The women were particularly subject to accidents—usually minor—around the home or village. Falls on the ice or packed snow must have been common, as were cuts from cleaning fish or dressing out game. Burns could result from the cooking fire or hot utensils. House fires, as in all cold climates, were a constant hazard. Some of the more unusual accidents that could and did occur include carbon monoxide poisoning from incomplete combustion in a poorly ventilated space, earthquakes,⁴⁴ tidal waves,⁴⁵ and the collapse of a house from shifting sea ice.⁴⁶

Intentionally inflicted injuries were commonest among the more warlike peoples such as the Tlingit, Koniag

and Aleuts. Most conflicts between neighboring populations took the form of brief skirmishes or raids rather than major pitched battles. The injuries were mainly caused by knives, spears, clubs, arrows and house burnings.⁴⁷ Some injuries were on a more personal basis, and resulted from anger, revenge, jealousy or fear. Disputes ranged from brief fistfights to release pent-up feelings, to murder, which often led to a blood feud.⁴⁸ Rape also sometimes occurred,⁴⁹ as did the physical abuse of slaves or captured enemies. Sometimes a personal slave was killed when the master died.⁵⁰ Punishment of children was rarely physical, and malefactors usually were dealt with through guidance, ridicule or perhaps exile. Occasionally, however, a transgressor—usually someone accused of sorcery—was sentenced to death.⁵¹

A special type of intentionally inflicted injury was that caused by the attack of animals. Dogs have been a part of most Alaskan cultures for several centuries as companions, as a food-source, or as draft animals.⁵² Alaskan dogs are often large, with a strain of wolf in their ancestry, and they can inflict serious or even fatal bites when excited, hungry or sick, although the heavy outer clothing Natives wore usually protected them from serious injury. Wild animals were also an ever-present danger. Natives hunted whales, walrus, sea lion, or the large bearded seal, any of which could easily inflict grave injury or sink a boat. The polar bear was also a fierce adversary that sometimes

got the best of a hunting encounter.⁵³ Brown bears, black bears, muskoxen, moose and caribou could also be formidable opponents under appropriate circumstances.

Self-inflicted injuries sometimes occurred as a result of mental instability. Methods of suicide varied around Alaska, with known examples of strangling, drowning or jumping from a cliff.⁵⁴

In a sense the climate was responsible for two common eye afflictions—snow blindness and chronic conjunctivitis due to smoke irritation. Many early narrators describe the red, swollen, watery eyes of the Natives they met.

Snow blindness, causing exquisitely painful eyes, resulted from prolonged exposure to the glare of the sun on the snow or water. First described among the Kenai Indians,⁵⁵ it was more widely reported from the more northerly regions where snow, ice and sunshine characterized the late spring and early summer months. Visiting Barrow in 1897 and 1898, Dr. Samuel Call acknowledged that snow blindness was the most troublesome and frequent acute affliction of the long arctic day. The condition became prevalent in early May and extended through the period of prolonged daylight, with cases appearing on moist, hazy days as well as on bright ones.⁵⁶

Many traditional methods existed for preventing or treating snow blindness. Some rubbed soot onto the upper face, much as the modern football player does.⁵⁷ The Eskimos in an-

cient times developed a kind of goggles, made of wood or ivory and provided with narrow slits or small oval openings for the eyes.⁵⁸ Medical treatment took several forms. Some Athapaskans applied animal grease topped by a layer of spruce gum to the eyes, or held the head of a sufferer over a pot of cooking fish eggs.⁵⁹ In southwestern Alaska cranberry juice, urine, or human milk were among the remedies used.⁶⁰ Surgical methods were also popular, most of which involved incising or piercing a small blood vessel of the lids, the skin of the orbit, or the nose.⁶¹

Most Native dwellings were crowded and poorly ventilated, with stone lamps burning seal, whale or fish oil, or with an open wood cooking fire. Several early reports attributed the Natives' red, painful eyes to smoke irritation.⁶² Among traditional remedies for this condition was the application of "Alaska cotton" (*Eriophorum* spp.), or willow catkins to absorb the discharge.⁶³

Toxic substances were another environmental hazard. Although cultural taboos and general experience protected the people from frequent harm from most toxins, an occasional illness or death resulted from paralytic shellfish poisoning (PSP), botulism or poisoning from plants.

PSP is caused by the ingestion of a powerful toxin produced by several species of plankton called dinoflagellates, which sometimes overgrow, or "bloom," and are fed upon by certain mollusks. Humans are at risk when

they eat contaminated bivalves such as clams or mussels. The disease is characterized by numbness and tingling around the mouth, vomiting, diarrhea, double vision, and in severe cases, by respiratory paralysis and death. The disease was well known in early times by both the Aleuts and Koniag.⁶⁴ What was almost certainly an outbreak of this disease occurred in Alaska in 1799, in a large party of Aleut and Koniag hunters returning home in skin boats after assisting in the construction of a Russian fort in southeastern Alaska. They stopped for the night at Khutznov Strait and feasted on some of the abundant black mussels in the area. Within minutes nearly half of the party felt nausea and dryness in the throat and within two hours a hundred Natives lay dead. A few were said to have been saved by eating raw smelts or by ingesting a mixture of gunpowder, tobacco and spirits, apparently to induce vomiting.⁶⁵ (Khutznov Strait later was renamed Peril Strait as a result of their tragic adventure.)

Botulism is another severe neuro-intoxication typically manifested by drooping eyelids, blurred vision, difficulty in swallowing, and, in severe cases, a fatal respiratory paralysis. It is caused by the ingestion of a powerful toxin which is produced, when conditions are right, by the anaerobic bacteria *Clostridium botulinum*. The illness, which has been frequent in modern times, usually results from eating improperly preserved foods, particularly sea mammal meat or fish that have been stored for long periods in

airtight containers.⁶⁶ No unequivocal accounts of botulism are known from early times, although a couple of incidents are suggestive. For example, in the early nineteenth century, Koniag people sometimes died after eating the flesh of beached whales.⁶⁷ On the Seward Peninsula in 1875, fifty-seven persons died after eating from a beluga carcass which had washed up on the beach.⁶⁸

An early account from Kodiak described a species of sweet grass which sometimes led to the death of whole families who ate it.⁶⁹ Today poisonous plants are known for nearly every part of Alaska. Among the more important are water hemlock (*Cicuta mackenziana*), false hellebore (*Veratrum eschscholtzii*), the death camas (*Zygadenus elegans*), and a few toxic mushrooms.⁷⁰ Although confirmation is lacking, it is plausible that accidental death, or at least sickness, occurred from time to time in traditional society.

Biting insects were yet another environmental hazard to be endured. No one who has spent a summer in Alaska can forget the myriad of insects that swarm in clouds around any warm-blooded creature, driving human and animal to distraction. Many early writers waxed eloquent on the subject of mosquitoes, black flies, chiggers, no-see-ums, and probably other tiny creatures thirsty for a blood meal.

Mosquitoes were a particular curse from May to September in the coastal areas, where countless tundra pools served as breeding sites. One

explorer wrote in exasperation: "One can overcome all kinds of situations, but against the relentless pursuit during waking and sleeping carried on by mosquitoes, which are constantly replaced by millions of new ones, there is no defense. . . . No philosophy protects against mosquitoes!"⁷¹ Other biting insects added to the summer misery, especially in the wooded areas. One witness described black flies thus: "The evil [of mosquitoes] was even increased ten-fold by the enrollment under the mosquito banner of myriads of small black flies, which left a mark after every bite, red as blood and of the size of a pea;" while another explorer wrote despairingly of a type of sand fly "which attacked . . . with a persistence and violence utterly beyond description."⁷²

The bites of these insect hordes, besides their considerable annoyance factor, had medical implications. Continuous scratching often led to impetigo, boils and other skin infections, which in turn would be spread to others. Dr. Irving Rosse described a sailor who was so swollen from bites around the eyes that he could not see.⁷³ Another likened multiple bites on the face to the clinical picture of smallpox,⁷⁴ and still another described those who were severely bitten in this way: "[He] loses his natural appearance; his eyelids swell up and close, and his face becomes one mass of lumps and fiery pimples."⁷⁵ In modern times Alaskan mosquitoes have been found to carry California encephalitis virus.⁷⁶

Infectious and Parasitic Diseases

In the decades following the first contacts between Alaska Natives and Europeans, certain infectious diseases decimated the local population, which had had no prior exposure or immunity to them. These diseases came principally in the form of devastating epidemics of smallpox, measles, influenza and other viral diseases, although some slow-moving infections, such as tuberculosis and syphilis, were no less destructive in the long run. Although introduced diseases were of overwhelming significance in the history of the indigenous peoples of Alaska, it seems clear that the Natives also suffered from many types of endemic infection. Some, such as upper respiratory infections, mild skin infections, and certain parasitic diseases, were simply inconveniences known to mankind throughout the world; other more serious infections temporarily disabled their victims and often caused their death. In addition, a few infections resulted from the unique relationship of the Natives to their northern environment.⁷⁷

From autopsy evidence it is known that some internal parasitic diseases existed, although it is unlikely that they were a significant cause of illness. A recent study of frozen human remains found near Barrow revealed evidence of probable trichinosis in one of the victims of a fatal accident.⁷⁸ In modern times, at least, the *Trichinella* worm has been isolated from several wild species in Alaska.

including walrus, bear and other animals used for food.⁷⁹ Likewise, trematode eggs, probably those of *Cyrtocotyle lingua*, were found in an ancient frozen Eskimo body from St. Lawrence Island.⁸⁰ This same parasite also has infected man in recent times.⁸¹

At least three types of parasitic flatworms have been found in Alaska Natives in the modern period, and since the life cycle of these parasites depends on man's traditional relationship to nature, it is likely that infections also occurred in an earlier era. Humans and other animals acquire the adult fish tapeworm (*Diphylllobothrium latum* and other closely related species) by eating the larval forms in the raw or undercooked flesh of freshwater fish.⁸² Larvae of *Echinococcus granulosus*, the causative agent of cystic hydatid disease, may infect the lungs and liver when people intrude on the normal life cycle by eating worm eggs contaminating the environment. The adult form of the parasite is found in dogs and wolves, which acquire it by eating the infected viscera of moose and caribou, the usual larval hosts.⁸³ Alveolar hydatid disease, a more serious form caused by *E. multilocularis*, occurs in Alaska primarily on and near St. Lawrence Island. In this variant, larval forms infect certain tundra voles, an important food source for the arctic fox, and to a lesser extent the local dogs, which in turn harbor the adult form. The larval form develops in man when he eats food contaminated with the eggs. This type of

hydatid disease affects the lungs, liver, brain and other vital tissues, possibly proving fatal.⁸⁴

Other infectious agents endemic to animals (but which may spread to man in Alaska) include rabies (from wolves and foxes), brucellosis (from caribou), and tularemia (from snowshoe hares and muskrat). None of these afflictions have caused more than sporadic human cases in either early or modern times.⁸⁵

A much more prevalent clinical problem involved skin infections. Zimmerman, *et al.*, found both adult lice and nits on the scalp of an Aleut mummy probably dating from the early eighteenth century.⁸⁶ Moreover, early narratives of explorers and missionaries from all parts of Alaska described heavy infestations of head and body lice among the Natives, who spent hours picking them off heads and bodies of their family members.⁸⁷

The incessant itching and scratching from lice, not to mention the seasonal plagues of biting insects, inevitably fostered bacterial infections of the skin such as impetigo, ecthyma, boils and abscesses. Early narrators frequently described sores and even ulcers of the skin, some of which were severe and widespread.⁸⁸ Davydov stated that on Kodiak Island boils were the most common illness among the Natives in the early nineteenth century,⁸⁹ and they were also known to be prevalent among the Aleuts and Yupik Eskimos.⁹⁰ Corroborating evidence for the prevalence of skin infections derives from the many



Fig. 4. Eskimos from Kotzebue Sound.

(Reproduced from Otto von Kotzebue, A Voyage of Discovery into the South Sea and Beering's (sic) Straits for the Purpose of Exploring a North-East Passage, Undertaken in the Years 1815-1818, 1821, vol. 1, opposite title page.)

traditional remedies that have been preserved. External applications of alder or yarrow leaves, spruce pitch, "puff-ball" fungi, rabbit fur and seal oil are among the treatments recommended.⁹¹ The Koniag and the Ingalik Athapaskans often drained abscesses surgically.⁹²

Respiratory infections of all kinds occurred in early historical times, although it is not possible to claim unequivocally that some were not introduced by early visitors. A few autopsies of pre-contact remains provide some certainty, however. Lobar pneumonia, accompanied by septicemia and multiple visceral abscesses, was the presumptive cause of death in an Aleut mummy, which also showed signs of bronchiectasis and emphysema.⁹³ Likewise, the autopsy of a pre-contact Eskimo woman from the North Slope showed signs of pneumonia and bilateral pleural effusions, plus some granulomatous le-

sions of the middle lobe of the lung and the carinal lymph nodes. These lesions had some features of tuberculosis, but the authors speculated that histoplasmosis was more likely.⁹⁴ (Clinical histoplasmosis never has been reported in Alaska Natives.)

The first to describe respiratory disease in Natives was Dr. Merck, who in 1790 noted that many of the Aleuts died of chest diseases, pain in the side, and hemoptysis after a winter of strong winds.⁹⁵ Several years later, Yuri Lisianskii stated that colds and coughs were among the commonest diseases of the inhabitants of Kodiak Island.⁹⁶ Early narratives from the Yukon-Kuskokwim Delta also included mention of respiratory illnesses among the Eskimos,⁹⁷ as did reports from the more northerly region.⁹⁸

Paleopathology confirms that chronic middle ear infections occurred in prehistoric times. An

Aleut mummy showed mastoiditis and chronic otitis media,⁹⁹ and a collection Eskimo and Aleut skulls in the United States National Museum revealed fifteen with evidence of cholesteatoma.¹⁰⁰ Prehistoric remains from Kachemak Bay on the Kenai Peninsula also have shown chronic mastoiditis.¹⁰¹

Dozens of traditional remedies for upper and lower respiratory illnesses have survived, some from an early period. These have ranged from bleeding, chewing leaves or pine needles, drinking infusions prepared from plants, applying plants externally, or ingesting seal oil.¹⁰²

Infections of the gastrointestinal tract are mentioned infrequently in early accounts, presumably because of the transient nature of the disorder, and there is no autopsy evidence of their existence from pre-contact times. In light of the poor sanitation of homes and villages, and the people's predilection for eating raw or putrid foods, however, it would be surprising if diarrhea were not a frequent problem. Traditional remedies for diarrhea are numerous, most of them using plant substances,¹⁰³ and an early Athapaskan shamanistic performance to heal a child with diarrhea has also been described.¹⁰⁴ In the 1950s, when many Natives were still living in a traditional manner, surveys of stool samples from Eskimos and Athapaskans demonstrated two types of *Shigella*, two pathogenic strains of *Escherichia coli*, and *Salmonella typhi*, not to mention several pathogenic intestinal parasites.¹⁰⁵

Chronic and Degenerative Diseases

Beyond the health consequences of exposure to adverse environmental conditions and infectious agents, Alaska Natives were afflicted with many types of chronic and degenerative diseases, some of which caused disability and premature death. The descriptions of these diseases are often less specific than one might have wished, since most early observers were not medically trained and usually looked at diseases in terms of their external manifestations rather than their causes or internal pathology. Understandably, those that were most apparent to the casual observer were the ones for which the best knowledge is available.

A good example of the difficulties of diagnosis involves eye disease. The red, watery eyes mentioned so frequently might have been due to glare, smoke, infection, or perhaps a noninfectious inflammatory disease such as iritis, glaucoma or keratitis, each of the latter three common in Natives in modern times. Likewise, references to opacities of the eyes may have been describing the results of injury, cataracts, pterygium, keratitis or severe infection. Opacities of the eye, indeed, were reported frequently, especially in the northern parts of Alaska.¹⁰⁶ Various traditional remedies for the condition have also survived, perhaps the most interesting involving lowering a louse attached to a hair to grab the whitened area of the eye.¹⁰⁷

Whatever the exact cause, the final common pathway for eye disease was

often blindness. Diaries from Captain Cook's voyage in 1778 mentioned a blind Eskimo man whose eyes were covered by a whitish film. On the same occasion they also noted a young man, one of whose eyes was destroyed by some type of chronic disease.¹⁰⁸ In the 1820s the English explorer Frederick Beechey described a blind Eskimo from northern Alaska,¹⁰⁹ and over the next few decades other blind persons were mentioned.¹¹⁰ Some of the many cases of blindness reported among Alaska Natives in the latter years of the nineteenth century may have been due to introduced diseases, particularly infections such as syphilis, gonorrhea and smallpox, but it is likely that others were quite unrelated to the contact of the Natives with outside influences.¹¹¹

Deafness, sometimes associated with mutism, also was described in early accounts.¹¹² Some of these cases were undoubtedly secondary to the chronic otitis media and mastoiditis previously mentioned, while others appear to be simply presbycusis.¹¹³ Several reports indicate how well individuals were able to cope with their disabilities.¹¹⁴ One interesting report described a Koyukon village in which four of the eleven men were deafmutes, in addition to a woman and child.¹¹⁵ Some type of hereditary condition is a likely explanation for this clustering of cases.

Epistaxis has been described repeatedly among indigenous peoples of the north since the earliest European contacts in the sixteenth century.¹¹⁶ In 1741 Chirikov noted that

the Aleuts had frequent nosebleeds as the result of stuffing roots into their nostrils.¹¹⁷ Several other early accounts mention epistaxis, which in some cases may have been due to trauma, infection, or to the cold, dry air causing cracking of the nasal mucosa.¹¹⁸ Another possible cause for this phenomenon is the antiplatelet action of omega-3 oils in the diet.¹¹⁹ Whatever the reason, the prevalence of the condition also is attested by the many traditional forms of treatment. Some stuffed snow, deer hair, or blubber into their noses.¹²⁰ Sticking the nose in the snow, holding snow in the mouth, bleeding from a scalp vein, and various magical treatments were also known.¹²¹

The dental status of the Alaska Natives may be examined reliably through paleopathology, since teeth and jaws have survived more or less intact, not only from preserved bodies but also from skeletal remains. A striking and consistent finding was the worn crowns, presumably resulting from the occlusal stresses of a meat diet, the mastication of skins to cure them, and the cumulative effects of a diet contaminated with grit. This wearing, often to the gingival margin, frequently led to the exposure of the pulp cavity, periapical abscesses, and tooth loss.¹²² Periodontal disease with heavy calculus formation and resorption of alveolar bone was another cause of tooth loss.¹²³ An autopsy of the frozen body of an Eskimo woman in her forties revealed the loss of nearly all teeth and an atrophic mandible.¹²⁴ Caries were rare or absent in



Fig. 5. Interior of a Tlingit house.

(Reproduced from Frederic Litke, A Voyage Around the World 1826-1829, ca. 1829, p. 199.)

all early human remains thus far examined.¹²⁵

Many early visitors commented on the teeth of the Natives they encountered. Most praised the whiteness, evenness and apparent health of the teeth, although they were often worn down nearly to the gum margin.¹²⁶ A few dissenting voices could be heard, however. A surgeon on Cook's expedition found the Aleuts to have indifferent, uneven and frequently discolored teeth.¹²⁷ Veniaminov wrote that the teeth of older Aleuts were stained yellow or even black,¹²⁸ while King was almost certain that the Eskimos of Norton Sound actually filed their teeth down,¹²⁹ a view shared by La Pérouse for the Tlingit.¹³⁰ That the Natives also suffered from toothache is demonstrated

by some of the traditional methods for treating the condition.¹³¹

Arthritis is another condition easily documented by paleopathology. Alaska Natives lived a difficult physical existence and it is not surprising that degenerative arthritis was a common occurrence. A study of early skeletons from the Aleutians revealed that nearly everyone over forty had arthritic changes in the vertebral column,¹³² and that some had degenerative changes in the joints of the upper extremity.¹³³ Degenerative arthritis also was found in human bones from Kodiak Island and from the lower Kuskokwim River.¹³⁴ At last one spine unearthed from the latter region suggested ankylosing spondylitis. Studies of Eskimo remains from the Prince William Sound area

and the arctic regions also demonstrated lipping, eburnation and erosion of joint surfaces of the spine and large joints.¹³⁵

The earliest reference to arthritis in the narratives dates from Kodiak Island in 1790.¹³⁶ Descriptions are rare over the next half century or so, perhaps because the manifestations were not obvious to the casual observer. It was from southeastern Alaska that most later descriptions come, perhaps because of the intense contact with Natives there and to the fact that the Russians (and later the Americans) suffered from arthritis themselves in the cold, damp climate.¹³⁷ Elsewhere in Alaska reports of arthritis are increasingly common in the latter decades of the nineteenth century, especially among the Eskimos and the Athapaskan Indians.¹³⁸ One observer—who, incidentally, was one of the few who thought arthritis rare among the Eskimos—described a classic case deforming rheumatoid arthritis.¹³⁹ Many traditional treatments for arthritis are known from around Alaska. These treatments include the use of heat, surgical procedures such as piercing and bleeding, the application or ingestion of plant or animal substances, or shamanism.¹⁴⁰

Early observers frequently described crippling conditions among the people they met. Some of these were the result of accidents, including severe frostbite requiring amputation; others seem to have been due to birth injury, genetic disorders, or the result of infections or degenerative diseases. In the Aleutians, Veniaminov de-

scribed the case of a child born with one arm,¹⁴¹ and Coxie mentioned the son of a chief with a maimed hand.¹⁴² A third example from the Aleutians was a hunter who had had his hand bitten off by a sea lion.¹⁴³

In the nineteenth century Septima Collis noted that many children in southeastern Alaska had deformities of the limbs.¹⁴⁴ Clubfoot, supernumerary digits, webbed fingers and hand deformities—the latter two attributed by a doctor to consanguinity in an isolated island population—were other crippling diseases reported.¹⁴⁵ Some four examples of Eskimos with severe joint contractures are known from early narratives.¹⁴⁶ Although other explanations are possible, these individuals, who had to crawl about on their hands and knees, may have been suffering from congenital arthrogryposis, or Kuskokwim disease, a condition first described in the medical literature in 1969.¹⁴⁷

"Hunchbacks" were described frequently in the early narratives, but it is likely that at least some of these resulted from Pott's disease.¹⁴⁸ Tuberculosis was probably introduced into Alaska in the late eighteenth century.¹⁴⁹

Paralysis can have many causes, including birth injury, infection, trauma and cerebrovascular disease. Speculation on Natives who suffered strokes goes back as far as 1787, when English trader Nathaniel Portlock met a chief in Cook Inlet who was entirely "disabled on one side."¹⁵⁰ Another report, nearly a century later, described a Tlingit shaman who was

paralyzed from an "apoplectic seizure."¹⁵¹ Other individuals with unspecified types of paralysis are mentioned in early accounts.¹⁵² A special type of paralysis is suggested by a curious piece of cultural evidence. A number of Indian and Eskimo masks from around Alaska seem to show clearly the typical deformity of Bell's palsy.¹⁵³

Several narratives reveal "crippling" conditions without giving enough information for even a reasonable guess at diagnosis. Sometimes individual cripples are mentioned and briefly described;¹⁵⁴ other times an unusually high prevalence of crippled persons are alluded to in a community or population group.¹⁵⁵

A few rare genetic diseases have been described in Alaska Natives in modern times, most of them in the Yupik Eskimos, who have probably been studied more thoroughly than any other group. Among the diseases of this nature are methemoglobinemia, salt-losing adrenogenital syndrome, and serum cholinesterase deficiency.¹⁵⁶ None of these could have been identified as such in early historical times.

Crippling conditions, particularly if severe, posed difficult problems for the Natives, especially since most groups were living an uncertain existence. There seems to be little doubt that deformed or crippled infants occasionally were allowed to die, or even encouraged to die, at birth. Examples are known chiefly from the Eskimos, but the practice probably occurred in other cultures as well.¹⁵⁷

Such events took place only in times of great want and uncertainty. In fact, several early accounts suggest that handicapped and disabled individuals were afforded every consideration by their families. Those who could develop and practiced skills which allowed them, despite their handicap, to contribute to the welfare of the family group. Cook and his men saw a badly deformed young man who, although unable to walk, was quite deft in handling a skin boat.¹⁵⁸ Another described a young woman who had lost both legs to frostbite, but was able to walk long distances on her knees and even was able to bear a child.¹⁵⁹ A deafmute from Norton Sound was said to be the best hunter in his community, while others remarked specifically on the loving care which was bestowed on the elderly, crippled or blind.¹⁶⁰

A few diseases or degenerative processes have emerged rather unexpectedly from the study of paleopathology. Zimmerman and his colleagues found atherosclerotic changes in centuries-old Aleut mummies and in frozen Eskimo bodies, including moderate coronary arteriosclerosis in an Eskimo woman who died about 400 A.D.¹⁶¹ Another frozen Eskimo body showed calcifications of the mitral valve, suggestive of healed subacute bacterial endocarditis.¹⁶²

Pathological evidence also points to cancer having existed in early times in Alaska. A skull from St. Lawrence Island showed evidence of either multiple myeloma or a metastatic carcinoma,¹⁶³ and an ancient skeleton



Fig. 6. A group of Kutchin Athapaskans

(Reproduced from William Healy Dall, Alaska and its Resources. Boston: Lee and Shepherd, 1870, opposite p. 43.)

from Kachemak Bay, off Cook Inlet, displayed what may have been a malignant hemangioendothelioma.¹⁶⁴

Chronic lung diseases also are documented from early human remains, including emphysema, bronchiectasis, and pulmonary and pleural fibrosis. All bodies examined have shown anthracosis of the lungs, presumably from constant exposure to sooty lamps and cooking fires.¹⁶⁵ It is interesting to note also that two of the five ancient bodies examined pathologically in Alaska showed the recovery phase of acute tubular necrosis of the kidney.¹⁶⁶

Conclusion

It is apparent from the foregoing that the Alaska Natives carried a significant burden of disease and disability in pre-contact times. At the outset I noted that many individuals rather naively have assumed that members of undisturbed traditional societies, especially in remote parts of the world, live healthy lives uncluttered by disease except those inflicted by angry spirits. Nothing, of course, could be further from the truth, especially in tropical lands where life expectancy is short and diseases—particularly vector-borne parasitic diseases—abound.

In northern climates the hazards were different, but the outcomes were similar with respect to infant mortality and short life expectancy. It

is possible that infectious diseases (although certainly present) were less prevalent in the Arctic and Subarctic, than, for example, on a tropical island, but counterbalancing this advantage was the ever-present danger of accident or starvation fostered by a rugged, unforgiving environment.

As I have depicted the story here, the health of the Alaska Natives in earlier times admittedly is based on fragmentary, tenuous and, for the most part, unscientific evidence. In the aggregate, however, the studies of human remains, early narratives, traditional medical practices and certain types of contemporary research present a fairly consistent picture. Health around the time of contact was fair, if not exceptional. The people of each Alaskan culture in their own ways had found the means of coping with a difficult life fraught with physical dangers, but they also had come to terms with a host of possible injuries, infections and degenerative diseases. Indeed, the extent to which shamanistic and empirical healing practices flourished suggests that their health was often at risk.

The arrival of Europeans in Alaska, beginning in the mid-eighteenth century, changed the lives of the Alaska Natives in fundamental ways, not the least of which was the introduction and rapid spread of hitherto unknown infectious diseases such as smallpox, measles, influenza, syphilis and tuberculosis. In addition, new technology, new diet, and new ways of doing things led over time to a host of previously unknown diseases

and injuries. These changes, superimposed on the baseline health hazards of these peoples, produced devastating consequences, and for a while threatened their very survival. Only in the last couple of generations have medical advances and expanded health programs for the Alaska Natives assured them of a health comparable to that of the American population at large.



Notes

1. See [Ivan] Innokentii Veniaminov, *Notes on the Islands of the Unalaska District* (Lydia T. Black and R. H. Geoghegan, trans.), Richard A. Pierce, ed. (Kingston, Ontario: Limestone Press, 1984), 61-71; and Hubert H. Bancroft, *History of Alaska: 1730-1885*, (New York: Antiquarian Press [reprint 1959], 1886), 63-254.

2. Bancroft, *History of Alaska*, 140-147.

3. See Kaj Birket-Smith, *The Chugach Eskimos*, Nationalmuseet Skrifter, Etnografisk Raekke VI (Copenhagen: Nationalmuseet Publikationsfond, 1953).

4. See James Cook, *The Journals of Captain James Cook on his Voyages of Discovery*. Vol. 3 (part 2), J. C. Beaglehole, ed. (Cambridge: Hakluyt Society, 1967), 402-403.

5. Bancroft, *History of Alaska*, 560-563. For a more specific account, see Lavrentii A. Zagoskin, *Lieutenant Zagoskin's Travels in Russian America, 1842-1844: The First Ethnographic and Geographic Investigations in the Yukon and Kuskokwim Valleys of Alaska*, [Arctic Institute of North America, Anthropology of the North. Translations from Russian Sources No. 7], Henry N. Michael, ed. (Toronto: University of Toronto Press, 1967).

6. See Robert S. Spencer, *The North Alaskan Eskimo: A Study in Ecology and Society*, [Smithsonian Institution. Bureau of Ethnology Bulletin No. 171], (Washington, D.C.: Government Printing Office, 1959); and Wendell H. Oswalt, *Alaskan Eskimos* (San Francisco: Chandler Publishing Co., 1967).

7. For a history of the Nunamiut, see Nicholas J. Gubser, *The Nunamiut Eskimo*

Hunters of Caribou (New Haven: Yale University Press, 1965).

8. For example, see Dorothy Jean Ray, *The Eskimos of Bering Strait, 1650-1898* (Seattle: University of Washington Press, 1975); J. R. Bockstoe, *Whales, Ice and Men: The History of Whaling in the Western Arctic* (Seattle: University of Washington Press, 1986); J. C. Cantwell, "A Narrative Account of the Exploration of the Kowak River, Alaska," in Michael L. Healy, *Report of the Cruise of the Revenue Marine Steamer "Corwin" in the Arctic Ocean in the Year 1884* (Washington, D.C.: Government Printing Office, 1889), 47-98; and George M. Stoney, *Naval Explorations in Alaska: An Account of Two Naval Expeditions to Northern Alaska, with Official Maps of the Country Explored* (Annapolis, MD: U.S. Naval Institute, 1900).

9. See Aurel Krause, *The Tlingit Indians: Results of a Trip to the Northwest Coast of America and the Bering Straits*, [Ema Gunther, trans.], (Seattle: University of Washington Press, 1956), 11-49.

10. For background, see William E. Simeone, *A History of Alaskan Athapaskans* (Anchorage: Alaska Historical Commission, 1982). See also Henry T. Allen, *Report of an Expedition to the Copper, Tanana, and Koyukuk Rivers in the Territory of Alaska, in the year 1885* (Washington: U.S. Government Printing Office, 1887).

11. Georg Wilhelm Steller, "Journal of the Sea Voyage from Kamchatka to America and Return on the Second Expedition—1741-1742," in *Bering's Voyages: An Account of the Efforts of the Russians to Determine the Relation of Asia and*

America, Frank A. Golder, ed., Vol. 2 (New York: American Geographical Society, 1922), 96.

12. Alexi Chirikov, "The Journal of Chirikov's Vessel, the 'St. Paul,'" in *Bering's Voyages*, Vol. 1, 305.

13. M. Lazarev and P. Vasiutinsky, in A. I. Andreyev, ed. *Russian Discoveries on the Pacific and in North America in the Eighteenth and Nineteenth Centuries*, [Carl Ginsburg, trans.], (Ann Arbor: American Council of Learned Societies, 1952), 29.

14. Cook, *Journals*, Vol. 3(1), 459.

15. Carl Heinrich Merck, *Siberia and Northwestern America, 1788-1792: The Journal of Carl Heinrich Merck, Naturalist with the Russian Scientific Expedition led by Captains Joseph Billings and Gavril Sarychev*, [Fritz Jaensch, trans.], Richard A. Pierce, ed. (Kingston, Ontario: Limestone Press, 1980), 200.

16. Grigori I. Shelikhov, *A Voyage to America: 1783-1786*, [Marina Ramsay, trans.], Richard A. Pierce, ed. (Kingston, Ontario: Limestone Press, 1981), 53.

17. William Ellis, *An Authentic Narrative of a Voyage performed by Captain Cook and Captain Clerke in His Majesty's Ships "Resolution" and "Discovery," During the Years 1776, 1777, 1778, 1779 and 1780; in Search of a North-West Passage between the Continents of Asia and America*, Vol. 1 (New York: Da Capo Press [reprint 1969], 1782), 236.

18. John Ledyard, *John Ledyard's Journal of Captain Cook's Last Voyage*, James Kenneth Mumford, ed. (Corvallis: Oregon State University Press, 1963), 85.

19. Zagoskin, *Travels*, 211.

20. Otto von Kotzebue, *A Voyage of Discovery into the South Sea and Beering's [sic] Straits, for the Purpose of Exploring a North-East Passage, Undertaken in the Years 1815-1818 . . .* Vol. 1, (New York: Da Capo Press, [reprint 1967], 1821), 191.

21. Ellis, *Narrative*, Vol. 1, 330.

22. N. I. Korobitsyn, in Andreyev, *Russian Discoveries*, 174.

23. Charles W. Raymond, "The Yukon River Region, Alaska," *Annual Report* (New York: American Geographical Society of New York, 1870-71), 173.

24. V. S. Khromchenko, "V.S. Khromchenko's Coastal Explorations in Southwestern Alaska, 1822," [David J. Kraus, trans.], James W. VanStone, ed., *Fieldiana Anthropology* 64 (November 23, 1973):71.

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26. "E. W. Nelson's Notes on the Indians of the Yukon and Innoko Rivers, Alaska," James W. VanStone, ed. *Fieldiana Anthropology* 70 (April 28, 1978):37.

27. For example, see Zagoskin, *Travels*, 114; Spencer, *North Alaskan Eskimo*, 57; and Urey Lisiansky, *A Voyage Round the World in the Years 1803, 04, 05 and 06: Performed by Order of His Imperial Majesty Alexander the First, Emperor of Russia, in the Ship "Neva"* (London: John Booth, Longman, Hurst, Rees, Orme and Brown, 1814), 214.

28. For examples of conditions, see Nathaniel Portlock, *A Voyage Round the World, But More Particularly to the North-West Coast of America: Performed in 1785, 1786, 1787 and 1788, in the "King George" and "Queen Charlotte," Captains Portlock and Dixon* (New York: Da Capo Press [reprint 1967], 1789), 249; and T. Edgar, in Cook, *Journals*, Vol. 3(2), 1351-1352.

29. Cook, *Journals*, Vol. 3(2), 1351.

30. Veniaminov, *Notes*, 180; Zagoskin, *Travels*, 114.

31. For commentary, see Veniaminov, *ibid.*; John Simpson, *Further Papers Relative to the Recent Arctic Expeditions in Search of Sir John Franklin in the Cruise of the H.M.S. "Erebus" and "Terror"* (London: H.M. Stationery Office, 1855), 921; G. I. Davydov, *Two Voyages to Russian America, 1802-1807*, [Colin Bearne, trans.], Richard A. Pierce, ed. (Kingston, Ontario: Limestone Press, 1977), 150; Nelson, *Notes*, 40; and Kotzebue, *Voyage*, Vol. 1, 191.

32. Martin Sauer, *An Account of a Geographical and Astronomical Expedition to the Northern Parts of Russia . . . by Commodore Joseph Billings in the Years 1785 &c. to 1794* (Surrey: Richmond Publishing Co. [reprint 1972], 1802), 155.

33. Simpson, *Papers*, 921.

34. Cantwell, *Narrative Account*, 54; and Wendell H. Oswalt, *Alaskan Eskimos*, 143.

35. Gubser, *Nunaniut Eskimos*, 93, 248.

36. Zagoskin, *Travels*, 110.

37. Cornelius Osgood, *Ingalik Social Culture*, Yale University Publications in Anthropology No. 53 (New Haven: Yale University Press, 1958), 229.

38. For a description, see Harrison Robertson Thornton, *Among the Eskimos of Wales, Alaska: 1890-93* (Baltimore: Johns Hopkins Press, 1931), 36; or John Murdoch, *Ethnological Results of the Point Barrow Expedition*, [Smithsonian Institution, Bureau of Ethnology, Ninth Annual Report, 1887-1888], (Washington, D.C.: Government Printing Office, 1892), 39-40.

39. See [D. H. Jarvis], *Report of the Cruise of the U.S. Revenue Cutter "Bear" and the Overland Expedition for the Relief of the Whalers in the Arctic Ocean from November 27, 1897 to September 13, 1898*, [U. S. Treasury Department Document No. 2101], (Washington, D.C.: Gov-

ernment Printing Office, 1899), 115, 121-122.

40. For example, see Spencer, *Alaskan Eskimo*, 92, 94; Edward M. Weyer, *The Eskimos: Their Environment and Folkways* (Hamden, CT: Archer Books [reprint 1969], 1932), 137-139; and Gubser, *Nunaniut Eskimos*, 122.

41. Jarvis, *Report of the Cruise*, 121.

42. Iakov Netsvetov, *The Journals of Iakov Netsvetov: The Atkha Years: 1828-1844*, [Lydia Black, trans.], (Kingston, Ontario: Limestone Press, 1980), 99.

43. Veniaminov, *Notes*, 167.

44. Netsvetov, *Journals*, 145.

45. Hector Chevigny, *Russian America: The Great Alaskan Venture 1741-1867* (New York: Viking Press, 1965), 83.

46. For a detailed account, see Michael R. Zimmerman and Arthur C. Auferheide, "The Frozen Family of Utaigvik: The Autopsy Findings," *Arctic Anthropology* 21 (1984):53-64.

47. Weyer, *Eskimos*, 155.

48. See Oswalt, *Alaskan Eskimos*, 182-183; or Osgood, *Ingalik Culture*, 149.

49. Spencer, *Alaskan Eskimo*, 79.

50. For examples, see Veniaminov, *Notes*, 198; Krause, *Thingit Indians*, 163; or Merck, *Siberia*, 80.

51. See Veniaminov, *Notes*, 243; Oswalt, *Alaskan Eskimos*, 187; and Robert White, "Notes on the Physical Condition of the Inhabitants of Alaska," in George W. Bailey, *Report on Alaska and Its People* (Washington, D.C.: Government Printing Office, 1880), 43.

52. For a discussion of the usage of dogs, see Margaret Lantis, "Changes in the Alaskan Eskimo Relation of Man and Dog and Their Effect on Two Human Diseases," *Arctic Anthropology* 17 (1980):2-25.

53. Irving C. Rosse, "Medical and Anthropological Notes on Alaska," in *Cruise of the Revenue-Steamer "Corwin" in Alaska and the N.W. Arctic Ocean in*

1881. *Notes and Memoranda: Medical and Anthropological; Botanical; Ornithological* (Washington, D.C.: Government Printing Office, 1883), 26.

54. For example, see Osgood, *Ingalik Culture*, 147; and Weyer, *Eskimos*, 248-249.

55. Davydov, *Two Voyages*, 200.

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Author

Robert Fortune, M. D., received his bachelor's degree in German literature from Cornell University and then his medical degree from McGill. He also is board certified in public health, having received his master's degree from the Harvard School of Public Health.

Dr. Fortune retired in 1987 after 26 years as an officer in the U.S. Public Health Service, including 23 years in the Indian Health Service. His duties included serving as hospital director in Belcourt, North Dakota, Fort Defiance, Arizona, and in Kanakanak, Bethel and Anchorage, Alaska. In addition, from 1977 to 1980 he served as International Health Attaché at the U.S. Mission to the United Nations in Geneva, where he was the liaison officer between the United States and the World Health Organization. From 1980 until 1987 Dr. Fortune served on the clinical staff of the Department of Family Medicine at the Alaska Native Medical Center in Anchorage. He continues to work part-time as a volunteer physician there.

As a member of the Council of the International Union for Circumpolar Health, Dr. Fortune represents the American Society for Circumpolar Health, having served on the board since its inception. His publications include over 40 papers on the history of disease, health services and traditional medicine in the arctic regions. To his credit also are several extensive bibliographies of Eskimos and North American Indians, and a definitive translation of *The Alaska Diary of Adelbert von Chamisso, Naturalist on the Kotzebue Voyage to Alaska, 1815-1818*. His book, *Chills and Fever: Health and Disease in*



Fig. 7. Robert Fortune, M.D., with Eskimo patient.

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the Early History of Alaska, was published in 1989 by the University of Alaska Press. In 1989 Dr. Fortune joined the faculty of the Biomedical Program at the University of Alaska in Anchorage as an adjunct professor of Health Sciences.

Book Review

■
(*Chills and Fever. Health and Disease in the Early History of Alaska.* Fairbanks: University of Alaska Press, 1989. [cloth, xvi + 393 pp., b/w photos, maps, ISBN #0-912006].)

■
This volume represents a most ambitious undertaking by an acknowledged scholar in the fields of Alaskan heritage and medical history. Robert Fortune, M.D., uses his considerable skill in historical research and draws upon his years as a medical practitioner to present an excellent review of the health conditions of traditional Alaskan aboriginals prior to contact with Europeans. He develops his theme further by tracking the evolution of disease and sundry health problems consequent with that contact.

In the Foreword, Dr. James Van Stone, of the Field Museum of Natural History in Chicago, extolls Fortune's efforts and underscores the importance of medicine and health habits in presenting any thorough study of peoples and cultures. Fortune contends that Alaska has "certain features that render it a giant microcosm" and, as such, has implications for the study of "geography, culture, time and history itself." Because of the comprehensive nature of this undertaking, Fortune primarily chose 1900 as the cut off date for his reportage. He contends that 1900 is significant in

that the Nome gold rush was at its peak, western Alaska was being decimated by a terrible influenza and measles epidemic, and by this time the exploration of Alaska was nearly complete--with virtually all aboriginals having had contact with whites for ten years or more.

Fortune also provides an explanation of the distinct groups of Alaska Natives relative to their traditional homelands and cultural differences prior to outside contact. This information, coupled with the various maps included in the volume, provides excellent reference guides for the reader. I found the book most thorough in its attention to detail and the author well aware of the responsibilities of scholarly research. Robert Fortune can be complimented for scrupulous attention to detail and the inclusion of meticulously researched references. As scholarly as Fortune's work is, he is modest and quick to provide credit where others before him have documented useful information. Throughout the book the distinctly different aboriginal populations of Alaska are compared and contrasted in light of the specific topics presented.

Part I is divided into four chapters dealing with the general health of the different Native populations prior to, during, and briefly following, initial European contact. In his descriptions the author is careful to

by Linda Keldermans

caution that most information is based upon reportage by persons who were not medical professionals. While anecdotal material might provide fascinating reading and some insight into health conditions at the time, it cannot be used, for example, to indicate conclusively how prevalent a particular disease was or whether it was indigenous or introduced.

The background information and historical perspective placed on medical missionaries throughout the vast expanses of Alaska are presented particularly effectively. Fortune credits one Native with the observation that if missionaries had not been successful in treating people with their Western medicines, they probably would have been unsuccessful in converting them with their religious pronouncements. As it was, these missionaries had to overcome much hostility from the aboriginals, who initially blamed all whites for the introduction of disease and health problems.

In Part II Fortune concentrates upon the development of Western health services. As was apparent in Part I, the author's background information is most detailed. The year 1820 is presented as a landmark date in the emergence of medical care for the inhabitants of Sitka. It was then that the Russian-American Company officers first established a physician in the capital to care for their personnel, thereby committing themselves to creating an extensive health care system. The author is quick to point out, though, that the quite sophisticated care estab-

lished by the Russians was designed for company employees and other foreigners only. The Alaska Natives themselves had virtually no access to Western medical care and had to continue to rely on shamans, herbalists and other traditional forms of care--which probably would have sufficed had it not been for the introduction of epidemics, slavery, starvation and other severe stresses upon their traditional lifestyles.

With the transfer of Alaska to American hands in 1867, the Russian medical care which had been developed so carefully was stifled. The Russian physicians and *feldsbers* (trained medical technicians) were sent back to the motherland and the specially trained Creole assistants were prohibited from practicing. The U.S. Army was assigned responsibility for the hospitals and other facilities vacated by the departing Russians. Not surprisingly, the Army restricted what medical services there were to their own personnel and the Alaska Natives lost again. Even when private doctors set up practice in Sitka, they generally took only paying patients.

It was not until the late 1870s that Navy surgeons and health personnel from the Revenue Marine Service ships began to provide "consistent but admittedly sporadic service" to Alaska Natives. Then it took almost another fifteen years before regular physician services were available to the more remote areas, this last effort primarily the result of medical missionaries.

The author subdivides Part II into the specific health problems affecting

early Alaskan history. The first two chapters deal with epidemic diseases--viruses such as smallpox, measles and influenza. Fortune contends that the smallpox epidemic of 1835-1840 and the measles and influenza epidemics of 1900 were among the most significant events in the history of Alaska's peoples. These diseases are presented as they occurred geographically and chronologically. The reader is made acutely aware of just how unprepared the Natives were for the influx of epidemic diseases. The shamans found the speed and intensity of the spread of these epidemics impossible to comprehend. Inevitably, as the Natives fell by the thousands to these scourges, they began to blame the Russians, Europeans and Americans for introducing the diseases deliberately so as to overpower them. Although the foreign traders and settlers also were decimated by the epidemics, they had superior care and more immunity than the Natives, who had none. Much hostility developed. Fortune is most poignant in relating various descriptions of the "great sickness" of 1900, in which a quarter to a third of the total population of western Alaska Natives succumbed to influenza and measles, with the survivors victimized further through starvation.

Syphilis, gonorrhea (quaintly termed "venereal distemper" by early traders), and especially tuberculosis, which came to be called "the scourge of Alaska," wrought additional devastation on the aboriginal populations. Tuberculosis claimed lives slowly but steadily, not reaching its apex until im-

mediately after World War II..

Although there has been much research and documentation about the disease and its effect upon the Native population in particular, Fortune raises the interesting point that no scholar or historian has really postulated that tuberculosis might have been indigenous in the aboriginal population. As a physician, he points out that, depending upon the stage of the disease, the symptoms of tuberculosis are nonspecific. Whatever the case, tuberculosis spread rapidly wherever the Russians settled in the early years and the problem was only exacerbated during the Gold Rush days when prospectors inevitably spread the disease to Native villages--where whole households succumbed, owing to no natural immunity, overcrowding and the generally poor ventilation of most dwellings.

Two additional chapters focus on substance abuse and subsequent psychological or chemical dependency. Tobacco and alcohol are presented as scourges of far-reaching proportions for Native populations and there is detailed evidence from early documents which shows rather conclusively that both of these were introduced deliberately by traders. Tobacco seems to have been introduced to Aleut villagers as early as 1741 by Russian traders, who attempted to induce the Native men to hunt for them. As its usage became more universal, there was an added complication in that tobacco took on ceremonial value. There even were numerous reports of children being given tobacco much as in other

societies children receive candy. Fortune does point out that probably the primitive method of curing tobacco (mixed with other herbs and plants) and the Natives' addiction to the drug—whether smoked, chewed or snuffed—made it more dangerous for the health of Natives in the long run.

Alcohol is called "Alaska's curse." Like tobacco, alcohol was used even as early as the Bering voyages to mollify Natives and to get them to perform services. Fortune demonstrates that it was not merely the Natives whom the Russian-American Company tried to control through alcohol. They used their own countrymen's craving for alcohol as a means of keeping them continually indebted to the company. Alcohol abuse was already a serious problem with the Russian *promysbleniki*, who were hard drinkers. The Russian Crown prohibited the manufacture of distilled spirits, but traders were permitted to make *kvass*, a beer-like beverage, aboard ship, supposedly as a preventative against scurvy. *Kvass* became a trading leverage, and many Natives soon learned how to make it themselves.

Inevitably, the disadvantages of permanently inebriated colonies and trading posts spun out of control. Even though the company tried to monopolize the manufacture of spirits and prevent their importation, British and American traders visiting the northern coasts still were able to supply the drug. By 1832 the Russian-American Company succumbed and began selling spirits to Indians at Sitka. Others followed their example.

By the time the Americans came on the scene, large sections of coastal Alaska were rampant with alcohol abuse. The Treasury Department's attempt to control importation did little good. Although the Army was given the responsibility for controlling what came in, it also was responsible for much abuse. As an interesting aside, Fortune reveals the origin of the word "hootch," an Alaskan expression which now connotes "bootleg liquor." Apparently, hootch had been named for the village of Hoochinoo, which was on Admiralty Island. Hoochinoo was well known as a site for the production of a crude but potent Native liquor. The inhabitants clamored for molasses, the prime ingredient of hootch, an item which traders were only too happy to provide.

Fortune is quick to point out that not all Natives drank. Some inland tribes sometimes never took up the habit and the crisis was most prevalent on the coasts, with their easy access to trading vessels.

One chapter is set aside for discussion of the impact of abuse, hunger and violence on Native peoples. The Aleuts especially suffered at the hands of the Russians, becoming virtually enslaved by their conquerors. Both Aleut and Koniag populations were decimated in the latter half of the eighteenth century due to murder, disease and subsequent starvation. As with their native counterparts in the lower forty-eight states, the Alaska Natives' foodgathering habits were challenged severely with the introduction of firearms and other hunters. Guns allowed

more competition for existing food sources, both for settlers and Natives alike. In addition, the Aleuts in particular suffered because the enslavement of their men as hunters for the Russian traders left no one home to hunt for the tribes. Hunger, starvation and the devastation wrought by epidemics reduced the aboriginal populations severely. Fortune recalls the particularly tragic case of starvation on St. Lawrence Island in the winter of 1878 and the spring of 1879. Among the sources the author quotes is a poignant one from naturalist John Muir, who travelled to the area in 1881 aboard the *Corwin*. Muir reported that 1000 out of the original population of 1500 perished. There is still some mystery as to the primary reason for this overwhelming mass starvation. Although the Eskimos contend that weather and an unusually early ice breakup were the causes, reports from traders, settlers and various missionaries blamed the whisky trade and other western-borne calamities for the decimation.

In his Epilogue, Robert Fortune lists his reasons for this comprehensive study. He argues first for the importance of an accurate history for Alaska Natives themselves, in the hope that they will gain a better understanding of their unique culture. He gently suggests that it is simply not true that, as some Natives have claimed, that the aboriginal peoples' health only began to suffer with the advent of European contact. Second, he argues convincingly that, as in the settlement of the West, Alaska was not simply "won". Rather, it was settled at an enormous

cost to the original inhabitants, whose lives were changed irrevocably by the coming of traders and settlers to the new land. Third, the author argues that historians in general should benefit from the inclusion of the important dimension of medical care to the social, political and economic history of a region.

This book is a must for scholars of Alaskan history and, indeed, for anyone sensitive to the ramifications of foreign influence upon native peoples. Dr. Fortune is to be credited with providing unique perspective and insight to a complicated period of American history.





"Working to Beat the Devil." Eskimo shaman exorcising evil spirits from a sick boy.

(Photo courtesy of Archives, Alaska and Polar Regions Department, University of Alaska, Fairbanks. Amelia Elkinfton Photograph Collection (#74-175-391).)

From Shamans to Curators: Bearers of Tradition

After writing his monumental book, *The Rise of the West: A History of the Human Community*, William McNeill observed that historians tend to be governed by their own experiences of disease: "Failure to understand the professional difference between the outbreak of a familiar disease amid an experienced population and the ravages of the same infection when loosed upon a community lacking acquired immunities is, indeed, at the bottom of the failure of previous historians to give adequate attention to the whole subject [of the impact of disease on human history]." ¹

Medical historians and anthropologists have made giant strides in correcting the deficiencies of scholarship described by McNeill before the 1970s. They have brought their descriptive methods to bear on the discovery, analysis and interpretation of the impact of disease on human populations, and the ways people try to avoid, cure or cope with disease. They try to explain attitudes and behaviors which, at first glance, may appear to be solely of economic, political or military origin. The expanded foci of medical historians and anthropologists also have encouraged examination of "alternative systems of healing," particularly

those ways of coping with illness which permeate indigenous traditions.

Few traditions have provoked more fascination in resource-rich societies than those of the inhabitants of the Arctic. With the limited resources that harsh climates provide, the peoples of the Arctic fashioned not only tools of survival but also art and artifacts which have stimulated collections for some of the great ethnologic museums of the world. Perhaps it is because of the paucity of environmental resources that Arctic dwellers focused their appreciation of its harsh beauty in the decorations we find in objects of stone, bone, ivory, wood and animal skins. Perhaps it is because Arctic dwellers have made so much from so little that provokes fascination.

As with almost all hunting and gathering peoples, the Alaska Natives--Aleuts, Eskimos and Indians--have a strong sense of unity with their animate and inanimate environment. Through their material culture, from the records of the first European and American explorers, in the oral traditions of contemporary Natives, present-day scholars hope to grasp some insight into ways that early inhabitants of the Arctic handled problems of health and illness



Wrangell shaman with raven rattle, ca. 1900.

(Reproduced from Winter and Pond Collection (PCA 87-252). Photo courtesy of Alaska State Library and Archives.)

by Glen W. Davidson

within their own world views.

Among the Eskimos of North America and Asia, the positions of leaders and healers were often occupied by the same person. Our word for this person is shaman and is derived from the Tunguso-Manchurian word *saman*, meaning "he who knows." Most scholars agree that shamanism evolved before the Bronze Age among hunting-and-gathering peoples in Central Asia and the Arctic.² Although the most complete expression of shamanism is found in these regions today, it also is found in some other areas of the world.

Contemporary study of shamanism reveals many similarities between the world views of Arctic Asia and Alaska.³ The deep antagonism early Russian explorers had for the healers of the Alaska Natives stemmed from their memories of conflict with leaders of Siberian natives they subjugated earlier. This led to a lack of interest and respect for Native healing practices—a prejudice perpetuated by subsequent European and American explorers. The importance today for joint exchanges between scholars and Native peoples of Siberia and Alaska is underscored by the scarcity of materials from the past which can help in understanding the evolved skills of healing that became the traditions of ancient peoples of the Arctic. Unfortunately, just as non-Natives are coming to respect shamans as the most significant bearers of Arctic traditions, shamanism among the Natives, themselves, is at a nadir.

The Eskimo shaman, or *angakok* (*angakut*, pl.) is not only the primary healer but also the intermediary between the people and the many gods or spirits of the Eskimo's world view. For example, through ecstatic transformation, shamans make the underwater journey to the Mother of Animals so as to assure an abundance of game; they perform these rituals to insure the return of the sun and the cycles of nature. In turn, shamans are responsible for seeing that the people respect rituals of remembrance and express gratitude for their food if they are to be defended people against evil spirits and circumstances such as barrenness or hunting accidents.

Sickness, in this world view, is the consequence of losing one's soul, either through violation of taboos or through the soul's imprisonment by an angry or evil spirit. A malevolent shaman might steal the soul of a sick individual, or perhaps the soul wandered off during a dream and became lost, or the soul was insulted in some way and left because its host broke a taboo. To this day, in fact, children in some groups are admonished against yawning loudly or gaping, lest their souls escape.

The role of the shaman is to organize collective confessions when taboos have been broken or to undertake the ecstatic journey to retrieve the lost soul in order that the sick host can be restored to health. The *angakut* is also responsible for assisting at the three great events of life—birth, marriage and death.



Auk Indian shaman, ca. 1900.

(Reproduced from *Winter and Pond Collection* (PCA87-243). Photo courtesy of Alaska State Library and Archives.)



Taku shaman, ca. 1900.

(Reproduced from *Winter and Pond Collection* (PCA 87-247). Photo courtesy of Alaska State Library and Archives.)



Shaman healing a sick woman , 1906.

(Reproduced from Case and Draper Collection (Album 39, PCA 39-67). Photo courtesy of Alaska State Library and Archives.)

Whatever our uncertainties about the Alaska Native's approach to health and illness before the coming of the European and American explorers, it does seem that most tribes had designated leader/healers whose task it was to know the collective wisdom of their people concerning matters necessary for everyday life and for their very existence as a tribe.

European and American Explorers

Some of the best narratives available from the early days of European contact are from ships surgeons or physician's assistants' descriptions of the health conditions of the Natives. There are no known descriptions of shamanistic rituals of healing from the

eighteenth century. No effort was made by physicians to observe such practices. Indeed, it is doubtful that any shaman would have permitted such observation. By the end of the nineteenth century, however, some shamans did allow themselves to be photographed. The importance of the photographs from Winter and Pond and others is not what they can demonstrate of shamanistic technique --the photographs were posed--but the style of the shaman's trappings. These photographs provide some understanding into the differences between attitudes elicited from people relative to shamans as compared to those of modern physicians.

Psychiatrist-ethnologist Dr. Joseph Bohlen observed that while, for the



Indian healer and patient,
ca. 1900.

(Reproduced from *Winter and
Pond Collection* (PCA 87-
260). Photo courtesy of
Alaska State Library and
Archives.)

most part, modern physicians now are respected by Alaska Natives, their shamans were held in awe, were feared and avoided except for those tasks which individuals could not accomplish alone.⁴ Today's physicians are specialized and usually not involved with their patients beyond the circumstances of illness, whereas shamans' powers pervaded all of life's major events. When shamans practiced their arts, it was usually in the public forum, with patient problems thus becoming common knowledge, open to public shame for breach of taboos. While modern practitioners are trained not to be swayed emotionally by patient complaints or pain, the shamans' power to diagnosis and treat came from their power to experience their patients' illnesses personally. When modern medicine became

available to the Natives, acceptance of physician treatment, Dr. Bohlen believes, was based on pragmatic effects rather than on compatibility of world views. Consequently, little can be learned about traditional practices of healing in modern practices. At best, then, we are given insight into the world of the shaman through inference from fragmentary material culture.

Collecting the material culture of Alaska Natives, so far as is known, began with Captain James Cook's third voyage of 1776-1779 in the *Discovery* and the *Resolution*. K. David Samwell, surgeon of the expedition, wrote in his notes that "some curious Articles...among which were small pieces of Ivory with the Images of dogs and rein Deer drawing Sledges and very ingeniously executed," were

brought from the Chukchi across the Bering Strait in Siberia.⁵ These pieces have not been found in any museum. Based on artifacts from the Cook expeditions housed in the British Museum, the Leverian Museum and the National Museum of Ireland, anthropologist Dorothy Jean Ray believes that the disappointing collection of Eskimo artifacts from northwest Alaska is explained by the crews having disembarked at only a few places on Norton Sound "where they found the people to be comparatively impoverished, as well as wary of too close contact."⁶

Thirty-eight years after the Cook expeditions, explorer Otto von Kotzebue obtained a large collection of materials. Louis Choris, the artist of the expedition, noted that these materials were obtained after great difficulty of bargaining with the Natives. Later expeditions led to the notable collections today in the Pitts Rivers Museum, University of Oxford, England; the Exeter City Museum, Exeter, England; and the Museum of Anthropology and Ethnology, Leningrad. In a review of the history of collecting Alaskan artifacts, Ray notes that "the sweeping of northwest Alaska by professional collectors did not begin until after the purchase of Alaska in 1867."⁷

William H. Dall, a member of the Western Union Telegraphy Expedition in 1867, Lucien M. Turner, the weather officer stationed at St. Michael in 1871, and Edward William Nelson, who succeeded Turner in 1877, all acquired large collections for the Smithsonian Institution. Other col-



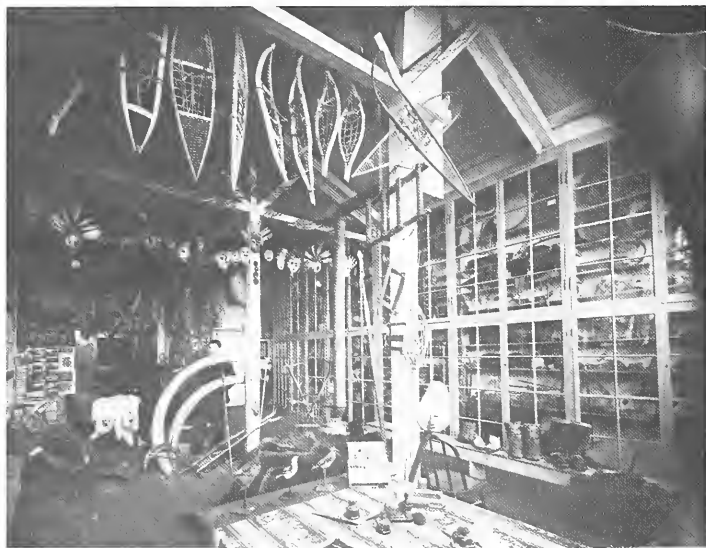
Eskimo woman feeding baby from bottle, ca. 1910.

(Reproduced from Winter and Pond Collection [PCA 87-272]. Photo courtesy of Alaska State Library and Archives.)

lections were acquired for Berlin's Royal Ethnological Museum (which was mostly destroyed in World War II), the Field Museum of Natural History in Chicago, the University of California, Berkeley, the University of Pennsylvania, the University of Washington, the University of British Columbia, and the American Museum of Natural History in New York, among others.

Collections in Alaska

The first significant collector whose labors led to the founding of the first museum in Alaska was Sheldon Jackson, a Presbyterian missionary-educator who arrived in Alaska in 1877. When he established a school in



**Jackson's Museum in Sitka,
ca. 1890.**

*(Reproduced from Case and
Draper Collection (Album 39,
#39-193). Photo courtesy of
Alaska State Library and
Archives.)*

Sitka--Sheldon Jackson College today--he was encouraged to organize collection of specimens and publications relating to Alaskan natural history and ethnology. His summer trips to inspect the Bureau of Education schools in northwest Alaska gave him access to collect artifacts directly from the Eskimos. His collections quickly outgrew the first museum building and, in 1896, he gave money to build the octagonal part of the building one sees of the Sheldon Jackson Museum today.

Although the Alaska State Museum was inaugurated in 1900, it had no building until 1920. These early muse-

ums, in the words of Dorothy Jean Ray, "were a kind of holding tank for the collections, and though the curators were diligent custodians and proud of their riches, they were not trained professionals (few curators were at that time), and exhibits often served as storage."⁸

The third large museum of Alaska was instituted with the opening of the Alaskan Agricultural School and School of Mines (now the University of Alaska Fairbanks) in 1922. The fourth major museum, the Anchorage Historical and Fine Arts Museum (renamed the Anchorage Museum of History and Art in 1985) was inaugurated



Hands-on activities are popular for classes participating in the docent educational programs.

(Photo courtesy of University of Alaska Museum, Fairbanks.)

in 1968. Even though this museum's holdings are recent, both artifactual and archival materials are impressive. A distinguished holding is the CIRI collection of Alaska Native art. Established in 1985 by Cook Inlet Region, Inc. (CIRI), an Alaska Native regional corporation located in Anchorage, this collection represents the finest art works by contemporary artists and artisans of the Aleut, Yupik/Inupiat Eskimo, Athapaskan and Tlingit traditions.

Today, there are more than forty museums throughout the State of Alaska. Many were started with Purchase funds from the State for the support of local history following the centennial of the Territory in 1967. Many of the museums are small and struggling, their collections reflecting the stories of their immediate regions. Yet to be organized is a museum dedicated to topics of health and illness, both ancient and modern.



The University of Alaska Museum, Fairbanks. "Totem," a black, painted steel sculpture stands sentinel near the main entrance.

(Photo courtesy of University of Alaska Museum, Fairbanks.)

A Docent Program

Because of their growing collections of archives and artifacts, Alaska's museums are exerting leadership in Arctic studies, and thanks to the quality of their developing services, also are exhibiting leadership in museology. One of the most impressive docent teaching programs has been organized by Terry P. Dickey, coordinator of education and public service at the University of Alaska Museum in Fairbanks. Until Dickey came to the museum in 1976, only unfocused tours of little relevance to the curriculum of the public schools were available.

The docent program planners focused at first on children in grades kindergarten through sixth, and trained community volunteers how to use the museum as a teaching/learn-

ing resource. When the museum was moved to new quarters in 1989, some permanent exhibit space was allotted specifically for the elementary and secondary curriculum. Volunteers were recruited based on their enthusiasm for Alaskan history, for their more generalized interest in children and museums, for innovation and self-motivating skills, for their willingness to donate weekly amounts of time, and for their abilities to work well in groups. The goal of the program, as set forth in the docent's training manual, was "to facilitate access to information in the Museum and to provide the individual with an historical perspective of Alaska's social and natural phenomena."

Elementary grade teachers were invited to attend inservice training sessions at the museum during which both the K-6 curriculum and the



Inupiat shaman's box and contents: a) lidded bentwood box with ivory handle (16" long, 6" wide, 5" deep); b) round, lidless bentwood dish; c) bronze bell with glass bead clapper from pre-revolutionary Russia; d) tassels of dyed seal and (non-dyed) wolf; e) wrapped hawk skull; f) seabird mummy in wrapping; g) tassels of dyed and undyed seal and wolf; h) two ermine skins; i) tassels of dyed and undyed seal; j) ivory bodkin; k) amulet; l) tool, possibly chert; m) jade tool; n) Pleistocene Era horse tooth; o) ivory spoon. This box was collected in 1928 by Harold McCracken on Little Diomed Island.

(Photo courtesy of University of Alaska Museum, Fairbanks.)



*View of Golovin, Alaska, in
September, 1948.*

*(Reproduced from USCG
Northwind, Bering Sea Pa-
trol Collection (PCA 309-17).
Photo courtesy of Alaska
State Library and Archives.)*

museum's resources were reviewed. This allowed the docent's curriculum to be validated against those areas in which supplemental teaching opportunities were needed or desired.

Response from teachers was overwhelmingly positive. Of particular interest to these teachers were docent programs on Alaska Native studies; a third through sixth-grade social studies requirement for which many teachers had inadequate background. Based on this information, the first Alaska Native program was entitled "People of the Western and Arctic Coasts: The Eskimos." This program

became so popular and effective with teachers and students that its format and themes became the model from which programs were developed on the Athapaskans, Aleuts and the Tlingits, Haidas and Tsimshians.

Development of curricula, organization of learning stations and evaluation instruments now have been developed for a wide spectrum of ages and subjects. Docent Resource Kits and companion Teacher Resource Kits are available from the museum at a nominal cost.

In addition to its museums, Alaska has two major archives: The Alaska



Dr. R.L. Price, Assistant Surgeon with the Bering Sea Patrol, examining children on the island of Atka in 1948.

(Reproduced from USCG Northwind, Bering Sea Patrol Collection (PCA 309-5). Photo courtesy of Alaska State Library and Archives.)

Historical Library in Juneau, and the Alaska and Polar Regions Collection at the University of Alaska's Rasmuson Library in Fairbanks.

Alaska Historical Library

The Alaska Historical Library was created on June 6, 1900, when the U.S. Congress directed the Secretary of the District of Alaska to encumber certain fees for the support of an historical library. The act specifically instructed the governor to collect laws, papers and periodicals, as well as other materials of historical interest.

On March 3, 1905, new legislation made it possible for all fees received by the secretary from any source to be set apart for the library and museum. When the District of Alaska became a territory of the United States through Congressional action in 1912, the revenue fees were diverted to the general fund.

On May 3, 1923, the Territorial Legislature created the Territorial Library and Museum Commission and appropriated money for its operation. In 1966 the Alaska Historical Library officially was separated from the Alaska State Museum and all of the photographs, maps and diaries were



The Coast Guard Cutter Northwind. This 269-foot ice-breaker was commissioned in 1945 and served in the Arctic and the Antarctic. Today, it is a museum in South Carolina.

(Photo courtesy of United States Coast Guard.)

transferred to the library. In 1975 the Alaska State Legislature placed the library in charge of the distribution of state publications to libraries, and directed that the first copy of any state publication be deposited in the Historical Library.

As a consequence of these legislative acts, the Alaska Historical Library has the most complete holdings of any archives of territorial and state documents. This library also has extensive holdings of private papers and manuscripts, Alaska-related photocopies and microfilm collections from other institutions, and many of the governmental archives from federal agencies.

Manuscript holdings are comprised of private diaries, letters and records of teachers, missionaries, gold seekers, pioneers, Alaska Natives, politicians, military personnel and others, as well as business records of mining companies, canneries and store keepers. The library holds the Vinokourov Russian Collection, anthropological records and cemetery ledgers for Juneau, the Russian American church, and Alaska-related records microfilmed by the National Archives in Washington, D.C.

The historical photography collections consist primarily of black and white images, but also include slide transparencies, lantern slides, stereoviews, videotapes and postcards. The subjects range from the gold rush, transportation, mining activities, the 1964 earthquake, Native portraits and activities, early Russian American

settlements, and extensive collections from Juneau and Southeast Alaska.

The newspaper collection contains microfilmed copy from approximately 90 Alaska communities, dating from the turn of the century. The map collection consists of atlases, Alaska-related historical maps and older nautical charts. The library currently does not add rare maps to its holdings, but a full collection of current U.S. Geological survey topographical maps of Alaska is available.

Of interest to anthropologists and medical historians is the recent addition of photographs from the 1948 voyage of the Coast Guard Cutter *Northwind*. Veteran of the 1946 Arctic Expedition "Operation Nanook" and the 1946-47 Antarctic trip "Operation High Jump," the *Northwind* was used for the four-month long Bering Sea Patrol. According to official Coast Guard documents, duties of the patrol were "aimed toward increasing logistic service to Coast Guard aids-to-navigation in outposts in the Aleutians," contributing "toward morale at those numerous isolated units through the replenishment of food stocks, general stores, fuel and that most important of all mail delivery."

Traveling aboard the *Northwind* from May 14 to June 4 was the "Floating Court" of District Judge Joseph Kehoe. The Court cruise was an annual affair, providing judicial services to shoreline outposts otherwise cut off from reach of the courts. The court required the *Northwind* to keep



Natives boarding the Coast Guard Cutter Northwind in May, 1948, to receive medical and dental treatment.

(Reproduced from USCG Northwind Bering Sea Patrol Collection (PCA 309-19). Photo courtesy of Alaska State Library and Archives.)

to a tight schedule despite the extensive itinerary.

Also aboard this patrol from Adak to Amilia Island was the Harvard Expedition of the Peabody Museum, led by Dr. McLaughlin. The mission of the expedition was "to make ethnological studies concerning the origin and migration of Aleuts and other tribes."

Other patrol services included medical care for Natives and government personnel provided by the U.S. Public Health Service, nutritionists, Alaska Native Service welfare workers and educators who cared for Alaska Natives ashore and aboard. Dentist Dr.

William J. Braye and Assistant Surgeon Dr. R.L. Price were reported to have provided treatment to over 250 patients at one Native village, a situation which required them, in the words of the Coast Guard document, to work "the clock around." Unfortunately, the photographer of the accompanying pictures is unidentified.

Rasmuson Library Alaska and Polar Regions Collections

As early as 1922, Charles Bunnell, the first president of the University of Alaska, envisioned a library of

"everything that has been published on Alaska by Alaskans." It was not until the 1970s, however, that his vision became a reality. Bunnell himself made continuous efforts to attract donations to the initial collection and his success was due in no small measure to his personal financing of purchases. The first significant donation came in 1929 from the widow of noted geologist Alfred H. Brooks and included several thousand volumes, pamphlets and maps.

In 1965 the University of Alaska organized an archives and manuscript department, a move which brought together materials which had been scattered between the University's museum library and various administrative storage units. In 1981 the Alaska book collection, archives materials and manuscripts, historical photographs, periodicals and microforms were organized as the Alaska and Polar Regions Department. Together, they constitute what is believed to be the largest special collection on Alaska and polar materials in the world.

The collection plan for The Rasmuson Library is obtaining a copy "of everything ever published about Alaska"—a possibility because of the States' relative youth as a site for scholarly exploration. The collection currently includes over 100,000 volumes; about 55,000 relating to Alaska, 6,000 to Canada, 4,000 on Siberia, about 2,000 on Greenland and 1200 on Antarctica. The collection is designed to provide researchers with "an integrated selection of biblio-

graphic and reference works, monographs and journal articles on all phases of Alaskan politics, commerce, history, science, ethnography, and comparative circumpolar exploration and history."

The Rare Books and Rare Maps collection contains approximately 3200 monographs and over 800 sheet maps. Special strengths of the collection include materials from the Russian era of Alaskan history and the Collins Overland Telegraph Expedition.

The Archives and Manuscripts collection contains manuscripts, photographic images, recordings and microfilm dating from as early as 1800. Included are journals and diaries of Alaskan pioneers who arrived in the late 1890s and early 1900s. Of special note are missionary diaries, journals and correspondence, many reflecting their observations of, and relationships with, Alaska Natives.

The Historical Photograph Collection, originally developed as part of the University of Alaska Museum, was transferred to the Alaska Historical Library in 1972. The collection includes approximately 250,000 images of a wide variety of Alaskan subjects. Primary holdings date from the 1890s.

The Alaska and Polar Regions Collection also includes government documents and maps, an oral history collection, periodicals and newspapers and print and electronic reference materials.

Modern Bearers of Tradition

As with its wealth of unmined minerals, Alaska holds a wealth of untapped ethnological traditions worthy of study. In our present world view of interrelated environments, however, no study, no people, no place, is complete in itself, but instead must be considered in relation to outside influences. Even though modern means of facing disease and illness are sophisticated and technologically supported, we may well need to know for ourselves how peoples, ancient and modern, were able to survive in harsh surroundings, to cope with disease and trauma with minimal resources, to think of ways to pull the curative from the common. As bearers of tradition, shamans and shamanism are almost beyond access to us. Curators and archivists, as limited as they might be by material culture, remain the best bearers of tradition we have. In the museums and archives of Alaska we have the best chance of glimpsing those traditions in their original settings. For some, that is the definition of health.



Doctor Price examining native woman and child on Nunivak Island, September, 1948.

(Reproduced from USCG Northwind Bering Sea Patrol Collection [PCA 309-23]. Photo courtesy of Alaska State Library and Archives.)

Notes

1. William H. McNeill, *Plagues and Peoples* (Garden City, NY: Anchor, 1976), 3-4.
2. "Sacred Offices and Orders: Shamanism," *Encyclopedia Britannica*, vol. 26 (Chicago: *Encyclopedia Britannica*, 1987), 1030.
3. Mircea Eliade, *Shamanism: Archaic Techniques of Ecstasy*. Bollingen Series, No. 76. (Princeton, N.J.: Princeton University Press, 1964); and John A. Grim, *The Shaman: Patterns of Siberian and Ojibway Healing*. "The Civilization of the American Indian Series, vol. 165 (Norman: University of Oklahoma Press, 1983).
4. Joseph G. Bohlen, M.D., Ph.D., was a member of Professor H.G. Bandi's University of Berne archeology team in 1967. He is Clinical Assistant Professor of Psychiatry at Southern Illinois University School of Medicine.
5. David Samwell, "Some Account of a Voyage to South Seas in 1776-1777-1778," in J.C. Neaglehole, *The Journals of Captain James Cook on his Voyages of Discovery*, vol. 3 (Cambridge: Cambridge University Press, 1967), 1133.
6. Dorothy Jean Ray. "Eskimo Artifacts: Collectors, Collections, and Museums," in Peter L. Corey, ed. *Faces, Voices & Dreams: A Celebration of the Centennial of the Sheldon Jackson Museum* (Sitka: Alaska Department of Education, Division of Alaska State Museums, 1987), 30.
7. *Ibid.*, 31.
8. *Ibid.*, 38.

Acknowledgments

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Author

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Directory of Museums and Archives of Alaska

Anchorage Museum of History and Art

Museum

Director: Patricia B. Wolf

Address: 121 West Seventh Avenue
P.O. Box 196650
Anchorage, Alaska
99519-6650

Telephone: (907) 343-4326

FAX: (907) 343-6149

Hours: 10:00 a.m. to 6:00 p.m.,
Monday through Saturday
1:00 p.m. to 5:00 p.m.,
Sunday

(Closed on all municipal holidays and
on Mondays in winter)

Archives

Archivist: M. Diane Brenner

Hours: Summer--9:00 a.m. to
12:00 p.m., weekdays

Winter--10:00 a.m. to
12:00 p.m., weekdays

Alaska State Museum

Director: Bruce Cato

Address: 395 Whittier Street
Juneau, Alaska 99801-1718

Telephone: (907) 465-2901

FAX: (907) 465-2976

Hours: Summer--9:00 a.m. to
6:00 p.m., Monday through
Friday
10:00 a.m. to 6:00 p.m.,
Saturday and Sunday

Winter--10:00 a.m. to
4:00 p.m., Tuesday through
Saturday

(Closed on Alaska state holidays,
Thanksgiving, Christmas, New Year's
Day, Martin Luther King Day, Alaska
Day.)

University of Alaska Museum

Director: Wallace Steffan

Address: 907 Yukon Drive
Fairbanks, Alaska 99775-1200

Telephone: (907) 474-7505

FAX: (907) 474-5469

Hours: Summer--9:00 a.m. to
5:00 p.m., daily
(May - September)
9:00 a.m. to 7:00 p.m.,
daily (June, July and August)

Winter--12:00 p.m. to
5:00 p.m., daily
(October to April)

(Closed on Thanksgiving, Christmas
and New Year's Day)

Elmer E. Rasmuson Library Alaska and Polar Regions Collections

Head: David A. Hales

Address: University of Alaska
Fairbanks, Alaska 99775-1005

Telephone: (907) 474-7261

Hours: 9:00 a.m. to 5:00 p.m.,
Monday through Friday

(Closed on all Alaska state holidays)

Alaska Historical Library

Director: Karen R. Crane

Address: P.O. Box G
Juneau, Alaska 99811-0571

Telephone: (907) 465-2925

FAX: (907) 465-2665

Hours: 9:00 a.m. to 5:00 p.m.,
Monday through Friday

(Closed on all Alaska state holidays)

Sheldon Jackson Museum

Curator: Peter Corey

Address: 104 College Drive
Sitka, Alaska 99835

Telephone: (907) 747-8981

Hours: Summer--8:00 a.m. to
5:00 p.m., daily

Winter--12:00 p.m. to
4:00 p.m.,
Tuesday through Friday
9:00 a.m. to 4:00 p.m.,
Saturday

(Closed Sundays and Mondays from
September 16 through May 15)

Announcements

Russian America: the Forgotten Frontier

"Russian America: The Forgotten Frontier" is a major exhibit undertaken by the Anchorage Museum of History and Art and the Washington State Historical Society Museum. This exhibit represents the premiere showing of the record of Russian activity in North America during the eighteenth and nineteenth centuries in travels from the Bering Strait to Baja, California. Loans of items, many never exhibited before, are scheduled to arrive from more than fifty American institutions, several foreign countries, and numerous individuals. An outstanding feature of the exhibit is the participation of several Soviet museums and archives. The exhibit will open in July at the Washington State Historical Society in Tacoma, as part of the arts festival during the Soviet-American Goodwill Games. It will then travel to Anchorage, where in 1991 it will be used to help celebrate the 250th anniversary of the North American discoveries of Russian explorer Vitus Bering.

Other host institutions for 1991 include the Alaska State Museum in Juneau and the Oakland Museum in Oakland, California. The curator of this exhibit is Barbara Sweetland Smith, one of Alaska's foremost experts on the Russian era in Alaska. For further information, contact Barbara Sweet-

land Smith at the Anchorage Museum of History and Art, 121 West Seventh Avenue, P.O. Box 196650, Anchorage, AK 99515-6650. Telephone: (907) 343-4326.

"Crossroads of Continents: Cultures of Siberia and Alaska"

Developed jointly by the Smithsonian Institution and the Soviet Academy of Sciences, "Crossroads of Continents: Cultures of Siberia and Alaska" is a major exhibit which will be at the Eiteljorg Museum of American Indian and Western Art in Indianapolis beginning May 6. This exhibit, which is the largest traveling exhibition ever developed by the Smithsonian Institution, contains some 600 artifacts, from 20,000 years ago to the present, many of which have never been seen in this country. "Crossroads" made its premiere appearance at the Smithsonian's Museum of Natural History in September of 1988. The exhibition travels to a total of six American cities, with Indianapolis being its only stop between the two coasts, and then to museums in Canada and the Soviet Union. This landmark exhibition is a vivid symbol of a new United States-Soviet Union political era. Ten years in the making, "Crossroads" preceded *glasnost*, but now is the premier cultural project between the two countries. For further information, contact Susannah Goddell

or Brooks Boeke Carr at the Eiteljorg Museum of American Indian and Western Art, 500 West Washington Street, White River State Park, Indianapolis, Indiana 46204. Telephone: (317)636-9378.

Sixth International Conference on Hunting and Gathering Societies

"Hunting and Gathering Societies: Changing Peoples, Changing Theories" is the theme of the Sixth International Conference on Hunting and Gathering Societies, scheduled for May 27-June 1, 1990, at the University of Alaska Fairbanks. Among the symposia to be presented are such topics as "Past and Present Health and Nutrition Patterns," "Soviet Hunter-Gatherer Research," and "Land Use and Land Rights: Indigenous and Contemporary Patterns." The official chair of the conference is Linda J. Ellanna, Associate Professor of Anthropology at the University of Alaska, Fairbanks. She can be contacted for more information at the university, Fairbanks, AK 99775-0160. Telephone: (907)474-6751 or 474-7288.

Seventh Inuit Studies Conference Planned

The Seventh Inuit Studies Conference will be held in Fairbanks, Alaska, August 19-23, 1990 at the University of Alaska, Fairbanks. Hosted by the Department of Anthropology at the university, the conference will be chaired by anthropology professor Dr. Lydia Black. Such topics as cultural re-adaptation and self-determination issues, along with proposals for land use in the future, will be offered for conference participants. Four symposia focusing on linguistic issues will run each afternoon from August 20 to 23. The sessions will be under the directorship of Dr. Michael E. Krauss and Steven A. Jacobson, both of the Alaska Native Language Center at the university.

The Inuit Studies Conference is operated under the auspices of the Association Inuitsiutit Katamajit, Inc., of Canada. This is the first time that the meetings will be held in the United States. Inquiries regarding the conference program and proposed workshops should be addressed to Dr. Lydia Black, Department of Anthropology, University of Alaska, Fairbanks, Fairbanks, AK 99775. Telephone: (907)474-6760 or 474-7288.

Credits

*Alaska State Library and Archives
Case and Draper Collection
United States Coast Guard Northwind
Bering Sea Patrol Collection
Winter and Pond Collection*

Anchorage Museum of History and Art

Robert Fortune, M.D.

United States Coast Guard

*University of Alaska, Fairbanks
Archives, Alaska and Polar Regions
Department*

University of Alaska Museum



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Debra Vaninger, Design

